



## Zooplankton Investigator Student Data Collection Sheet

# What influences a marine food web?

**Zooplankton Investigators:** \_\_\_\_\_

**Directions:** *Collaborate with the people in your group to answer the following questions. You will need access to the internet to complete this task. In some cases you may be directed to a specific website otherwise you may use your favorite search engine. After completing this task you will form a new group where you will be the expert zooplankton investigator. You will then work together to identify what really influences a marine food web.*

Zooplankton play a critical role in any marine food web, but how do researchers get an idea of the species and density that make up the community? The Applied California Current Ecosystem Studies (ACCESS) utilizes two different sampling methods to target different sized zooplankton. The following videos will provide you with an idea of how this sampling equipment works.

**Go to:** <http://cordellbank.noaa.gov/library/videogallery.html>

View Hoopnet Video

1. Why do you think this piece of equipment is called the *hoopnet*?
2. Where in the water column is the sample collected?
3. Why do you think this hoopnet does not sample phytoplankton?

View Tucker Trawl Videos (Explanation and Sampling Krill with Tucker Trawl)

4. How does the Tucker Trawl differ from the hoopnet?

5. Why does the Tucker Trawl have three different sampling containers (cod ends)?
  
  
  
  
  
  
  
  
  
  
6. What type of zooplankton do researchers hope to sample using the Tucker Trawl?

**Go to:**

[http://sanctuarysimon.org/cordell/sections/marineMammals/project\\_info.php?projectID=90&sec=mm](http://sanctuarysimon.org/cordell/sections/marineMammals/project_info.php?projectID=90&sec=mm)

7. After reading Euphausiids (krill) in the Gulf of Farallones identify and explain the important relationship that krill and the Cassin's auklet have.
  
  
  
  
  
  
  
  
  
  
8. What other marine species in these National Marine Sanctuaries rely on krill?

**Go to:** <http://accessoceans.org/index.php?page=research-monitoring-and-management>

9. Analyzing Data: You will find several figures on this website that display processed zooplankton data from 2004 to the present as well as scientists current conclusions. Within your group answer the following questions in order to draw conclusions regarding zooplankton abundance, community make-up and age structure of the krill populations over the sampled years. Be sure to support your answers with data.
  - A. During what year and month was there the largest abundance of euphausiids in the sample? lowest?
  
  
  
  
  
  
  
  
  
  
  - B. Why do scientists believe some samples had a larger abundance of euphausiids than others?
  
  
  
  
  
  
  
  
  
  
  - C. How did the zooplankton communities differ between sampling years?

D. During what year and month was the sample dominated by juvenile euphausiids?

E. Are there any samples that were dominated by adult euphausiids?

F. What do you think the relationship is between the portion of euphausiids sampled in the Cassin's Auklet diet and the number of chicks hatched?

10. What other factors does your group think may influence the abundance of zooplankton found in a marine food web?